REMARKS

Applicants wish to thank Examiners Sharp and Sandy for the courtesies extended during the interview on November 16, 2005. The Official Action dated August 8, 2005 has been received and its contents carefully noted. By the above actions, claims 1-28 are pending in the application. In order to better define that which Applicants regard as the invention, claims 1, 13, and 27 have been amended. In addition, a replacement sheet with Figures 6 and 7 is submitted herewith to correct a numeral identifier in Figure 7. No new matter has been added. Support for the Amendments is provided in the original claims, Figures 1-9 and related text of the specification.

In view of these actions and the following remarks, reconsideration of this application is now requested.

Drawings

Figure 7, which was submitted on May 24, 2005, is objected to because numeral identifier "12" should be --42-- as supported by paragraph [0037] of the present specification. A replacement sheet has been submitted herewith in compliance with 37 C.F.R. 1.121(d), showing the correct numeral identifier --42-- in Figure 7. Therefore, withdrawal of the objection to the drawings is in order and is respectfully requested.

Rejections under 35 U.S.C. § 103

Claims 1-12 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,749,692 to Kish et al in view of U.S. Patent No. 3,861,527 to Hyner et al., U.S. Patent No. 5,725,892 to Hyner et al., and U.S. Patent No. 5,476,687 to Gabriel et al. Independent claim 1 has been amended to recite "an electrodeposited coating deposited directly on a carbon steel surface of the carbon steel head and shank, the electrodeposited coating consisting of a zinc alloy and having an average thickness of greater than 1.0 mil." As described by paragraph [0038] of the present specification, FIGS. 1 and 2 illustrate an electrodeposited zinc coating 26, with a thickness greater than 1.0 mil, directly deposited onto the carbon steel surface of the carbon steel head 12 and shank 22. There is no intermediate layer between the zinc coating 26 and the carbon steel surface of the head and shank. As

discussed in paragraph [0009], this zinc coating is electrodeposited directly onto the carbon steel surface to provide a protective layer, with an oxidation potential which allows the layer to serve as the anode in a galvanic coupling with the steel base of the fastener acting as the cathode.

The combination of references suggested by the Examiner, however, fails to disclose or suggest an electrodeposited zinc coating with thickness of greater than 1.0 mil applied directly to the carbon steel fastener surface. In particular, the Examiner cites Hyner et al. as disclosing a zinc coating electrodeposited on a metal fastener with a thickness of 0.1 to 3 mil. (See Office Action, p. 4, lines 6-9.) Although Hyner et al. discloses a thickness of greater than 1 mil., it fails to suggest that such a thickness should be applied directly onto the carbon steel surface of the nail and shank. Unlike the present invention which first applies a coating of zinc alloy on the fastener, Hyner et al. applies a nickel based coating as a first coating onto the carbon steel surface of the fastener. (See Hyner et al., column 3, lines 24-27.) Hyner et al. only applies a zinc based alloy as a subsequent coating on the first nickel layer. (See Hyner et al., column 4, lines 4-6.) Thus, contrary to the claimed invention, Hyner et al. has an intermediate layer between the zinc coating and the carbon steel surface.

Moreover, Hyner et al. applies a zinc coating on a first nickel layer rather than the carbon steel surface, because, according to the reference, the corrosion product formed by oxidation of a zinc layer is not desirable, and "it is advantageous to minimize the formation of this corrosion product." (See Hyner et al., column 3, line 61-column 4, line 6, emphasis added.) In addition, the zinc layer in Hyner et al. is used "primarily to provide a suitable base for subsequent layers. . . ." (See Hyner et al., column 4, 34-38, emphasis added.) By citing the disadvantages of applying a protective zinc coating directly to the carbon steel surface of a fastener, Hyner et al. teaches away from the practice. Thus, the teachings of Hyner et al. fail to disclose or suggest applying a zinc coating with a thickness of greater than 1.0 mil directly on the carbon steel surface of the fastener. Indeed, combining the teachings of Hyner et al. with the zinc-plated fastener of Kish et al., as suggested by the Examiner, would require a nickel plating to be applied before the zinc-plating, contrary to the claimed invention.

In addition, independent claim 1 recites that "at least a portion of the top surface of the carbon steel head is textured to improve adhesion between the electrodeposited coating

and the top carbon steel surface." The Examiner asserts that the "textured" head surface recited in the present claims is taught by the roughened upper surface in Perkins et al. (See Office Action, p. 4, lines 1-2.) However, according to Perkins et al., "[t]he head 13 has preferably a roughened upper surface 13a thereby avoiding the skip-off when the fastener is being driven by the driver blade of a high speed powered tool." (See Perkins et al., column 2, lines 42-45.) In order to prevent the problem of skip-off, Perkins et al. would necessarily require that the roughened surface be formed on the outermost layer of the fastener. Roughening an underlying layer would not help prevent skip-off. Thus, applying Perkins et al. to the zinc-plated fastener of Kish et al., as suggested by the Examiner, would require roughening the outermost zinc layer, rather than texturing the underlying carbon steel head surface over the subsequent zinc coating is applied, as recited by claim 1.

Moreover, because Perkins et al. only attempts to solve the problem of skip-off, there is no suggestion that the roughened surface in Perkins et al. is appropriate for improving adhesion by an electrodeposited coating. Good adhesion performance of a coating depends on a variety of attributes of the interface region not disclosed or suggested by Perkins et al. Effective adhesion is not promoted by every roughening of a substrate's surface, particularly when the modification does not contemplate an electrodeposition process. Thus, the teachings of Perkins et al. fail to suggest texturing the underlying carbon steel surface to improve adhesion by the electrodeposited coating.

The combination of references suggested by the Examiner fails to disclose or suggest a zinc coating thicker than 1.0 mil applied directly on the carbon steel surface, as recited by independent claim 1. The combination also fails to disclose or suggest texturing the underlying carbon steel surface to improve adhesion, as recited by claim 1. As a result, withdrawal of the rejection of independent claim 1 is in order and is respectfully requested. In addition, Applicants respectfully submit that dependent claims 2-12 are allowable since they depend on what is now believed to be allowable base claim 1.

Claims 13-28 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,749,692 to Kish et al in view of U.S. Patent No. 5,178,903 to Lat et al., U.S. Patent No. 3,861,527 to Perkins et al., and U.S. Patent No. 5,725,892 to Hyner et al. As with independent claim 1 discussed above, independent claims 13 and 27 recite "an

electrodeposited coating deposited directly on a carbon steel surface of the carbon steel head and shank, the electrodeposited coating consisting of a zinc alloy and having an average thickness of greater than 1.0 mil." The Examiner asserts again that Hyner et al. suggests a zinc coating of greater then 1.0 mil applied directly to the carbon steel surface of the fastener. However, as discussed above, Hyner et al. applies a nickel based coating as a first coating onto the carbon steel surface of the fastener, and only applies a zinc based alloy as a subsequent coating on the first nickel layer. (See Hyner et al., column 3, lines 24-27 and column 4, lines 4-6.) Moreover, Hyner et al. teaches away from the practice of applying the zinc coating as a first layer because it cites the disadvantages of applying a protective zinc coating directly to the carbon steel surface of a fastener.

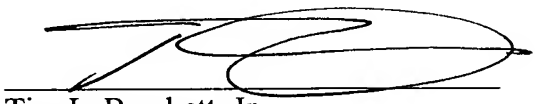
Like independent claim 1, claims 13 and 27 also recite that "at least a portion of the top surface of the carbon steel head is textured to improve adhesion between the electrodeposited coating and the top carbon steel surface." The Examiner argues again that Perkins et al. suggests a textured carbon steel surface on the head of the fastener to improve adhesion of the zinc coating. As described previously, Perkins et al. would necessarily require roughening the outermost zinc layer, rather than texturing the underlying carbon steel head surface over which the subsequent zinc coating is applied as recited by claims 13 and 27. Furthermore, there is no suggestion that the roughened surface in Perkins et al. is appropriate for improving adhesion by an electrodeposited coating

Correspondingly, the combination of references suggested by the Examiner fails to disclose or suggest a zinc coating thicker than 1.0 mil applied directly on the carbon steel surface, as recited by independent claims 13 and 27. The combination also fails to disclose or suggest the texturing the underlying carbon steel surface to improve adhesion, as recited by claim 13 and 27. As a result, withdrawal of the rejection of independent claim 13 and 27 is in order and is respectfully requested. In addition, Applicants respectfully submit that dependent claims 14-26 and 28 are allowable since they depend on what is now believed to be allowable base claims 13 and 27.

Therefore, the present application is now believed to be in condition for allowance. However, should the Examiner find some issue to remain unresolved, or should any new issues arise, which could be eliminated through discussions with Applicants' representative,

then the Examiner is invited to contact the undersigned by telephone in order that further prosecution of this application can thereby be expedited.

Respectfully submitted,



Tim L. Brackett, Jr.
Registration No. 36,092

Nixon Peabody LLP
401 9th Street, N.W. Suite 900
Washington, D.C. 20004-2128
(202) 585-8000